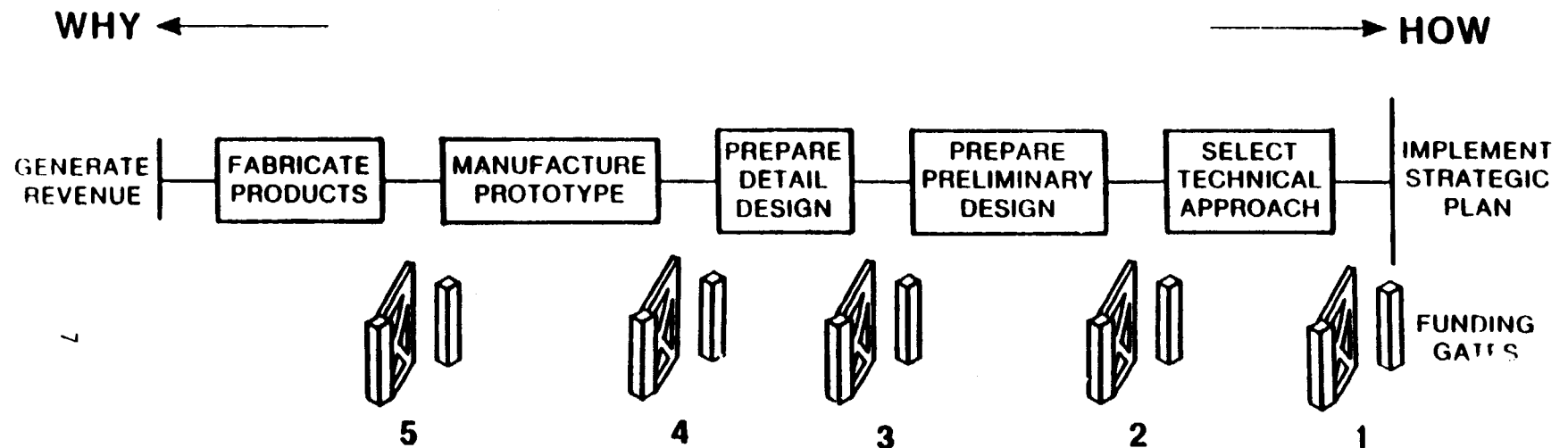# WHAT IS FAST?

FAST IS A UNIQUE,

DISCIPLINED METHODOLOGY

TO

IDENTIFY, DEPICT,

AND

ANALYZE

FUNCTIONS

AND

FUNCTION RELATIONSHIPS

FUNCTION ANALYSIS SYSTEM TECHNIQUE
FUNDING GATES
IN
NEW PRODUCT DEVELOPMENT

WHY ←   → HOW

| GENERATE REVENUE | FABRICATE PRODUCTS | MANUFACTURE PROTOTYPE | PREPARE DETAIL DESIGN | PREPARE PRELIMINARY DESIGN | SELECT TECHNICAL APPROACH | IMPLEMENT STRATEGIC PLAN |

5   4   3   2   1

FUNDING GATES

FUNCTION: An intent or purpose that the product or service is expected to perform.
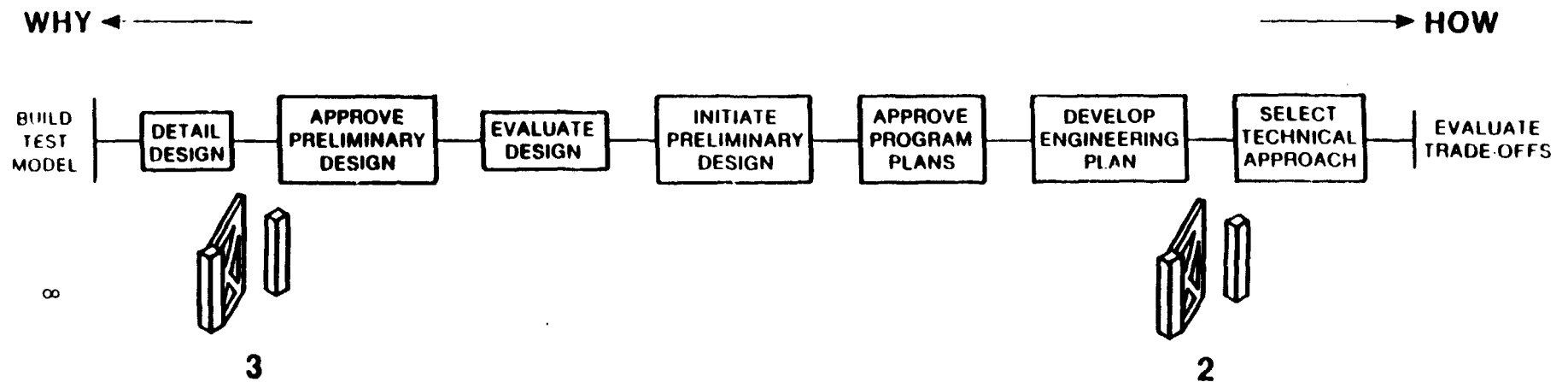
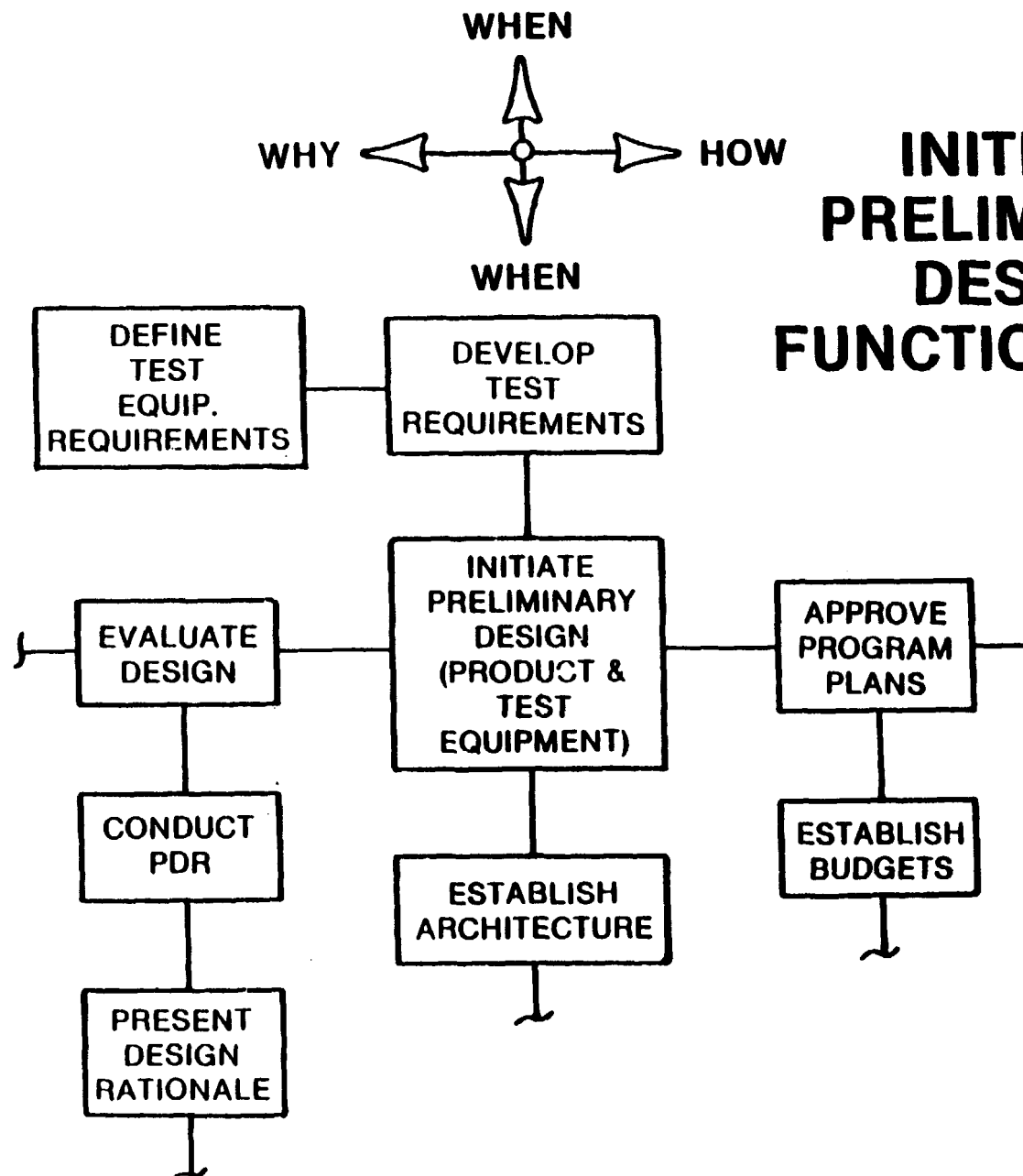**FUNCTIONS ARE DESCRIBED USING TWO WORDS; AN ACTIVE VERB AND A MEASURABLE NOUN.**

ACTIVITY: The actions of functions. (Can also be described using a verb and noun.)

WHAT MAKES FAST UNIQUE?

o PROCESS OF ANALYSIS INCREASES
   UNDERSTANDING

o FAST ACCELERATES LEARNING

   - VERB-NOUN FUNCTION IDENTIFICATION

     + CLARIFIES WHAT THE FUNCTION
      REALLY DOES

     + INCREASES UNDERSTANDING

   - HOW-WHY QUESTION EA FUNCTION

     + WHY IS FUNCTION NEEDED?

     + HOW IS FUNCTION PERFORMED?

     + EXPOSES ANOMOLIES

o DEVELOP SENSITIVITY MATRICES

   - RESPONSIBILITY/ACCOUNTABILITY
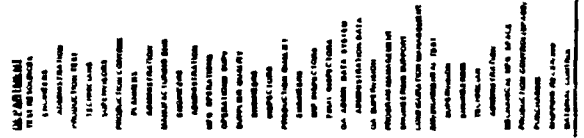
   - COST, CAPITAL EQUIPMENT

   - STATISTICAL DATA

PRELIMINARY DESIGN FUNCTION FLOW

WHY ◄───────   ───────► HOW

| BUILD TEST MODEL | DETAIL DESIGN | APPROVE PRELIMINARY DESIGN | EVALUATE DESIGN | INITIATE PRELIMINARY DESIGN | APPROVE PROGRAM PLANS | DEVELOP ENGINEERING PLAN | SELECT TECHNICAL APPROACH | EVALUATE TRADE-OFFS |

∞

3

2

WHEN

WHY ← ○ → HOW

WHEN

INITIATE PRELIMINARY DESIGN FUNCTION FLOW

DEFINE TEST EQUIP. REQUIREMENTS — DEVELOP TEST REQUIREMENTS

EVALUATE DESIGN — INITIATE PRELIMINARY DESIGN (PRODUCT & TEST EQUIPMENT) — APPROVE PROGRAM PLANS

CONDUCT PDR

PRESENT DESIGN RATIONALE

ESTABLISH ARCHITECTURE

ESTABLISH BUDGETS

IIM FACTORY MODEL RESPONSIBILITY MATRIX

CHARTER OF THE WPSS

THE WPSS SHALL RECOMMEND STANDARDS FOR THE

TRANSMISSION OF ATV BASED ON INFORMATION SUPPLIED

BY ANY AND ALL OTHER WORKING PARTIES OF THE

ADVISORY COMMITTEE

11

METHODOLOGY

o APPLY FAST FOR FUNCTION MODEL DEVELOPMENT

o IDENTIFY BASIC REQ'TS OF THE GENERIC IDEAL SYSTEM

O IDENTIFY GENERIC FUNCTIONS

O COMPARE CANDIDATE STANDARDS AGAINST THE IDEAL

o OTHER CANDIDATE CRITERIA

- COST

- TIME TO DEVELOP

- TECHNOLOGY POSITION IN ITS LIFE CYCLE

- ASSOCIATED TECHNOLOGY LEAPS

- CONCURRENT MFG/ENGG DEVELOPMENT

12

WORKSHOP CONSIDERATIONS

o IDENTIFY SACRED COWS

o ENCOURAGE OBJECTIVITY

o ENCOURAGE TEAM CONSENSUS

o IDENTIFY EVALUATION CRITERIA

o ECONOMIC/TECHNICAL/POLITICAL

o CUSTOMER ACCEPTANCE

o TECHNOLOGY LIFE CYCLE

o APPLICATIONS BEYOND ENTERTAINMENT

15

PROPOSAL UNIQUE APPROACH

o **TRAINED FACILITATORS**

- **NOT INFLUENCED BY FINANCIAL CONCERNS**

- **NOT INFLUENCED BY TECHNICAL IMPLICATIONS**

o **IF COMMITTEE AGREES TO SUPPORT**

- **WE HAVE THE METHODOLOGY**

- **TO RESOLVE THE OPPORTUNITY**

o **FAST MODEL IS KEY TO EVALUATION APPROACH**

o **FAST TECHNIQUE IS KEY TO MODEL DEVELOPMENT**

SPECIFIC EXPERIENCE

- NEW PRODUCT DEVELOPMENT

- PRODUCT COST IMPROVEMENT

- PLANT RELOCATION

- BUSINESS METHODS/ORGANIZATION

- DESIGN OF GOVERNMENT FACILITIES

- SCHOOL RECONSTRUCTION

- WASTE WATER TREATMENT

- BRIDGE DECK REPAIR/RESTORATION

- INDUSTRIAL TECHNOLOGY MODERNIZATION

- DEFENSE INDUSTRY

- COMMERCIAL INDUSTRY

- ELECTRONICS

- AEROSPACE

- HEALTH CARE INDUSTRY

- COMMUNICATIONS

- CONSTRUCTION

CBS
OPERATIONS AND
ENGINEERING

A Division of CBS Inc.
555 West 57 Street
New York, New York 10019
(212) 975-4321

'Dear Bob: April 12, 1990

In light of recent events in the HDTV arena, I feel compelled to
write to you about the schedule and plans for SS/WP4.

I understand from Mr. Wiley's ATSC Steering Committee meeting that
our sub group will not only recommend an HDTV transmission standard,
but that we must analyze the test data for all the systems tested by
the ATTC. This will amount to a mountain of paper which must be
carefully studied by people skilled in statistical analysis. Our
sub group has a huge responsibility. Our decisions will be
second-guessed for decades afterwards.

There are five areas where SS/WP4 must move quickly and decisively,
as follows:

1. We must add to our membership the specialists required to
    accomplish the analysis of data. No vehicle exists today for
    analyzing this data.

2. Using the new members as well as existing ones, subcommittees
    must be set up to handle the mountain of data which will be
    coming to us. This includes not only test results from the
    ATTC, but also the output of the other working parties which
    covers all areas of the HDTV question. Agreement must be
    reached on how we analyze and interpret this data.

3. We must contact each of the PS and SS sub groups to put them on
    notice as to what form we want their information in.

4. The ATTC must also be instructed as to the amount of analysis
    (if any) they should do before forwarding the data.

5. The working party or its subcommittees must meet more often --
   possibly every two months -- as necessary to position ourselves
   to be ready for fast action when the data becomes available.
   CBS believes at least 50% of these meetings should take place in
   New York.

I look forward to a discussion of these points at our April 19
meeting. We have a monumental task ahead of us. The sooner we
prepare for it, the easier our job will be.

Sincerely,

William C. Nicholls
Director, Systems Development

Mr. Robert Hopkins
Chairman, SS/WP4
Advanced Television Systems Committee
1776 K Street NW
Suite 300
Washington DC 20006

2535f

FCC ADVISORY COMMITTEE ON ADVANCED TELEVISION SERVICE
SYSTEMS SUBCOMMITTEE
WORKING PARTY ON SYSTEM STANDARDS (SS/WP4)

MINUTES OF THE FIFTH MEETING
19 April 1990

I.   Minutes of the Meeting

1.0   Introduction and Approval of Agenda

The fifth meeting of SS/WP4 was held on Thursday, 19 April 1990 in the offices of the National Association of Broadcasters, 1771 N Street N.W., Washington, DC 20036. The meeting was called to order by the Chair, Dr. Robert Hopkins, at 10:10 am. A list of the people who attended may be found in Section II. of this document.

Dr. Hopkins welcomed the members and called for comments on the proposed agenda. (The agenda may be found in Section III. of this report). There being none, it was accepted.

2.0   Consideration of Minutes of the Fourth Meeting

Dr. Hopkins explained that the minutes of the fourth meeting held on, 27 November 1989, had been previously approved by correspondence, but he would take into account any new comments from the group. There being no comments, the minutes of the fourth meeting were approved.

3.0   Comments by Mr. Felker

Dr. Hopkins introduced Mr. Felker to the members. Mr. Felker, formerly Chief of the FCC's Mass Media Bureau, now works for Mr. Wiley, Chair of the Advisory Committee.

Mr. Felker reported that the Advisory Committee had approved the Third Interim Report at its 21 March 1990 meeting. At that same meeting, Mr. Sikes, Chair of the FCC, addressed some remarks to the members. Mr. Sikes said that the Commission planned to rule on a terrestrial HDTV standard in the second quarter of 1993, and would like a final report from the Advisory Committee by 30 September 1992. Mr. Sikes also said that the Commission favored a simulcast solution for terrestrial broadcast, and that no action would be taken on an EDTV standard until after an HDTV standard was adopted.

In light of the challenging timetable required by the Commission, Mr. Felker emphasized the need for WP4 to prepare its report in a manner that would allow for "an efficient analysis" by the Advisory Committee. He called upon the Working Party to "determine the most relevant data", and to advise the other Working Parties on the form of the data WP4 expects them to submit. He also asked the members to consider how they will go about using the data submitted, what weights might be assigned to various categories of data, and how the individual attributes might be prioritized within those categories. Finally, Mr. Felker urged the group to consider immediately, given the short period of time available to complete its work, how, specifically, it will use the information supplied by other Working Parties to arrive at a recommendation.

Dr. Hopkins thanked Mr. Felker for his comments.

4.0   Organizational Changes

Mr. Sidran, of Bellcore, reported that Mr. Crutchfield had resigned his position as Chair of SS/WP2, although he will continue to act as a liaison between WP2 and the ATTC. Effective immediately, Mr. Richer, Director of Engineering at PBS will assume the role of SS/WP2's Chair. Mr. Sidran thanked Mr. Crutchfield for all his hard work over the last three years on behalf of the Systems Subcommittee. Dr. Hopkins added that Ms. Jones and Mr. Tanner had switched roles in Planning Subcommittee Working Party 6. Mr. Tanner of Cable Labs is now the Chair, assisted by Ms. Jones as Vice-Chair.

5.0   Presentation on Value Engineering

Mr. Hanover of the EIA introduced Mr. Coletta, a principle in the management consulting firm of J. J. Kaufman Associates, and a member of the Society of American Value Engineers (SAVE). Mr. Coletta was a Vice-President at Fairchild Industries, and a project manager for over 25 years.

To solve a problem, began Mr. Coletta, requires a team and a method. A team is "a group of individuals, working towards a common purpose". The method is value engineering. By breaking a planning or manufacturing process down into functions, as opposed to activities, and describing each function by a noun and a verb, value engineering allows the project team to see key relationships, responsibilities, redundancies and unassigned tasks. He then went on to further describe the technique by examining two examples in some detail.

Mr. Coletta concluded his presentation by offering the services of his firm, J.J. Kaufman Associates, to conduct a workshop to train key members of WP4 in the methods of value engineering.

Mr. Donahue, of Thomson Consumer Electronics, asked how much a workshop would cost. Mr. Coletta replied that the exact amount depends on the needs of the group, but as a general rule, a workshop for 6 - 8 individuals, lasting 3 - 4 days, would cost between $2,000 and $2,500 per day.

Mr. Claudy, of NAB, asked if this method had ever been applied to the process of setting a technical standard. Mr. Coletta said he didn't know, but value engineering is a structured approach to general problem solving, which can be applied to structure and formalize any planning activity.

Dr. Hopkins asked Mr. Coletta if he would allow a copy of his viewgraphs to become a part of the record of SS/WP4. He agreed to give Dr. Hopkins a full copy of the viewgraphs, as well as a three page summary sheet. The viewgraphs were assigned document number SS/WP4-0026.

Dr. Hopkins thanked Mr. Coletta for his presentation on behalf of the Working Party.

6.0   "Certification" of Proponent Systems for Field Testing

Dr. Hopkins introduced the next discussion by saying that a question had arisen at the Systems Subcommittee meeting on 27 February concerning the process by which ATV systems would be "certified" for field testing after the completion of laboratory testing by Cable Labs, the CRC and the ATTC. WP4 was asked to consider what role, if any, it should play in the process.

Mr. Robinson reminded the group that field testing is intended to validate the recommendation of WP4 under actual over-the-air conditions, not to be part of the selection process. Only one system will probably be field tested, the one we deem most likely to be the successful candidate.

Mr. Sidran felt that, given the responsibility of WP4 to recommend a system, or systems, it should certify candidates for field testing under the guidance of SS/WP2.

Mr. Donahue suggested that, in order to follow the guidelines set down by Mr. Sikes at the Advisory Committee meeting, at least two types of systems should be field tested, one HDTV system and one EDTV system.

Mr. Hanover said he would like SS/WP4 to make a strong statement, that WP4 must pass judgment on each system as part of its work, and is therefore the proper group to determine which should be field tested.

Mr. Solomon, of MIT, thought that the question had many important implications and the members should be given some additional time to consider it. He suggested postponing the discussion until the next meeting.

Dr. Hopkins summarized the feeling in the room by saying that the general view is that not all systems will be field tested, and WP4 expects to play a significant role in the determination of which systems shall be field tested. The question will be discussed again at the next meeting.

7.0   Final Report of SS/WP4

Dr. Hopkins introduced a discussion of the form and content of the final report of
SS/WP4. He turned the floor over to Mr. Nicholls, who introduced a letter he had writ-
ten to Dr. Hopkins, dated 12 April 1990. The letter, which was assigned document
number SS/WP4-0027, lists five areas where Mr. Nicholls feels SS/WP4 should move
quickly and decisively. One item of concern is how to handle the volumes of data which
will be coming to WP4 from the other Working Parties.

This question led to a general discussion of what types of data WP4 will need to support
its recommendation, where that data will come from, what form will be required, and
how, and by whom, should any reduction of the data be done.

Dr. Hopkins summarized the discussion by noting that there appeared to be general
agreement not to have any groups other than WP4 make value judgments based on the
data collected. Reduction of the raw data might be done by WP4 or elsewhere, but WP4
will present "high level" summaries of the data in its final report. The members agreed.

Dr. Hopkins went on to suggest the formation of two Task Forces. One to consider four
questions of interest: (1) what data will be needed by WP4, (2) where that data will come
from, (3) how, and (4) by whom, will any necessary data reduction be accomplished.
This new group will be called the Task Force on Data Format. Data reduction may in-
clude relative levels of importance of the data. The members asked Mr. Gaggioni to
serve as Chair of this group, and he agreed.

Dr. Hopkins said the group should also try a first cut at priorities.

Some members believed that SS/WP4 should decide on criteria before the testing
begins. It was suggested that a strawman could be set up by the Task Force.

The second Task Force, on Report Drafting, will write the Final Report of WP4. Even
though the report will not be completed for another two and a half years, this group will
begin work immediately to create an outline for the report as a means to structure the
remaining work of WP4, and provide guidance to the other groups providing information
to WP4. Mr. Sidran agreed to serve as Chair for this group. Mr. Sidran suggested that,
as an additional task, his group take on the responsibility for creating a time line, or
PERT chart, for the remaining work of WP4. The room agreed with the recommendation
of Dr. Hopkins to create two new Task Forces, the selection of the Chairs, and the defini-
tion of the work assignments.

Point of Agreement: Two new Task Forces will be formed. The Task Force on Data
Format will be Chaired by Mr. Gaggioni. The Task Force on Report Drafting will be
Chaired by Mr. Sidran.

Several companies volunteered to serve on each of the Task Forces. The EIA, CBS, the
ATTC, Cable Labs, the NAB, Capital Cities/ABC, and NBC agreed to join the Task Force
on Report Drafting. Ameritech, the NAB, NYNEX, CBS, the ATTC, Cable Labs, the EIA
and MIT asked to join the Task Force on Data Format.

Dr. Hopkins then asked each of the new Task Force Chairs to hold at least one meeting before the next meeting of WP4, probably in mid-June. Furthermore, because of the urgent need to provide guidance to the Working Parties supplying WP4 with information, the Chair asked Mr. Gaggioni to give a report at the next meeting on what data will be needed by WP4, how that data should be reduced, and by whom.

Action Item: Mr. Sidran and Mr. Gaggioni will each hold at least one meeting of their Task Forces before the next meeting of WP4.

Action Item: Mr. Gaggioni will report at the next meeting on the data needed by WP4, how that data should be reduced, and by whom.

8.0   New Business

The Chair asked the group if it was an appropriate time to discuss how the methods of value engineering presented by Mr. Coletta might be useful to the Working Party, or possibly to form a Task Force to study the question and report back its findings. The general feeling in the room was to postpone such a discussion. Dr. Hopkins said he would include that topic as an agenda item for the next meeting.

9.0   Next Meeting and Adjournment

Dr. Hopkins said that another meeting of WP4 will be held during the week of 11 June 1990, prior to the next Systems Subcommittee meeting. Each of the two new Task Forces will have held at least one meeting by then, and he plans to hold a meeting of the Working Party Officers during May.

The date, time, and place of the next WP4 meeting will be distributed in the FCC's Public Notice and by letter to the members.

There being no further business, the meeting was adjourned at 1:40 p.m.

II.   List of Attendees:

Name	Organization	Telephone	Fax
Mr. Max Berry	Faroudja Research	(201) 807-0474	(201) 641-6413
Mr. Krishan Bhatnagar	Comsat	(202) 863-6241	---
Mr. Lynn Claudy	NAB	(202) 429-5340	(202) 429-5343
Mr. Art Coletta	J.J. Kaufman Associates	(301) 990-0231	---
Mr. Ben Crutchfield	ATTC	(703) 739-3850	(703) 739-3230
Ms. Fran Dix	Bellcore	(201) 758-2106	(201) 758-0199
Mr. Joseph Donahue	Thomson	(202) 872-0670	(202) 872-0674
Mr. James Ennis	Fletcher, Heald & Hildreth	(202) 828-5700	(202) 828-5786
Mr. Hugo Gaggioni	Sony	(201) 833-5715	(201) 833-9321
Mr. Ronald Gnidziejko	NBC	(212) 664-3153	(212) 581-6687
Ms. Ann Hageman	HDTV International	(703) 548-1428	(703) 548-8068
Mr. David Hanna	Consultant/GTE Telops	(817) 656-1933	---
Mr. George Hanover	EIA	(202) 457-4979	(202) 457-4901
Dr. Robert Hopkins	ATSC	(202) 429-5345	(202) 429-5343
Mr. Robert Hurst	David Sarnoff Laboratories	(609) 486-5097	(609) 486-5226
Mr. Robert Lawrence	NYNEX	(914) 287-5576	(914) 683-2237
Mr. Bernie Lechner	Consultant/Cable Labs	(609) 924-7545	(609) 924-7547
Mr. Bill Litzinger	Southwestern Bell	(314) 529-7516	(314) 529-7573
Mr. William Nicholls	CBS	(212) 975-5646	(212) 975-1715
Mr. Yozo Ono	NHK	(212) 489-9550	(212) 974-3281
Mr. Ashok Rao	Comsat Labs	(301) 428-4079	---
Mr. Ken Raymond	NYNEX	(914) 644-6144	---
Mr. Gerald Robinson	Scientific Atlanta	(404) 925-5835	(404) 925-5777
Mr. Bruce Sidran	Bellcore	(201) 758-4646	(201) 758-0199
Mr. Richard Solomon	MIT	(617) 253-5159	(413) 283-4403
Mr. Ted Tatsuishi	NTT America	(202) 857-0846	---
Mr. Antoon Uyttendaele	CapCities/ABC	(212) 456-3478	(212) 456-2424
Mr. Robert Wohlford	Ameritech	(312) 806-8248	---

III. Agenda

1.0 APPROVE AGENDA

2.0 MINUTES OF THE FOURTH MEETING

3.0 DISCUSSION OF DECISION-MAKING PROCEDURES -- PRESENTATION ON VALUE MANAGEMENT METHODOLOGY

4.0 DISCUSSION ON "CERTIFICATION" OF PROPONENT SYSTEMS FOR FIELD TEST FOLLOWING LABORATORY TESTING AT ATTC

5.0 DISCUSSION ON THE FORM OF THE FINAL SS/WP4 REPORT

6.0 NEW BUSINESS

7.0 ADJOURNMENT

IV. Summary of Open Action Items:

Assigned	Action Expected for the next Meeting
Mr. Gaggioni	Hold a meeting of the Task Force on Data Format before the next meeting of SS/WP4.
Mr. Sidran	Hold a meeting of the Task Force on Report Drafting before the next meeting of SS/WP4.
Mr. Gaggioni	Report at the next meeting on the data needed by WP4, how that data should be reduced, and by whom.

V. List of Documents Distributed at the Meeting:

SS/WP4 - 0026 Viewgraph presentation on value engineering by Mr. Coletta of J.J. Kaufman Associates, dated 19 April 1990.

SS/WP4 - 0027 Letter from Mr. Nicholls of CBS, to Dr. Robert Hopkins, dated 12 April 1990.

VI. Historical List of Points of Agreement by the Members:

19 Apr 1990   Two new Task Forces will be formed. The Task Force on Data Format will be Chaired by Mr. Gaggioni. The Task Force on Report Drafting will be Chaired by Mr. Sidran.

12 Jul 1989   SS/WP4 will send document SS/WP4-0019, ATV System Models, to the Systems Subcommittee, the ATSC and the EIA. The following text is contained in that document:

SS/WP4 reaffirms its recognition of the importance of interoperability between alternative media and terrestrial broadcast standards, and the desirability for consumer ATV receivers to accommodate alternative media inputs.

SS/WP4 encourages the ATSC and the EIA to develop specifications for an appropriate interface that could lead to a voluntary industry standard

The input documents on ATV System Models will be forwarded to both the EIA and the ATSC. Figure 1 of document SS/WP4-0019 (also see document SS/WP4-0018) can serve as an ATV systems model. Figure 2 of document SS/WP4-0019 (see also document SS/WP4-0016) can serve as a model for an ATV receiver.

SS/WP4 will maintain liaison with the EIA and the ATSC on an ongoing regular basis.

11 Apr 1989   SS/WP4 intends to make recommendations based only on consensus. Determination of consensus will be left to the officers. For consensus to exist there must be substantial agreement among the members of the Working Party, and general agreement that consensus exists. If consensus does not exist, but there is a large body of opinion, it will be reported along with any minority opinions.

11 Apr 1989   The primary intention of SS/WP4 is to make a recommendation for the terrestrial broadcast of ATV.

11 Apr 1989   SS/WP4 does not anticipate making recommendations for transmission of ATV on alternative media, but does anticipate other organizations will do so. SS/WP4 will consider inputs from other organizations in its deliberations.

11 Apr 1989   The primary intention of SS/WP4 is to recommend a single standard for the terrestrial transmission of ATV.

11 Apr 1989   Whatever system is recommended for terrestrial broadcast must be capable of being carried by cable systems as well.

V. Historical List of Points of Agreement by the Members, con't:

11 Apr 1989   SS/WP4 recognizes the importance of inter-operability between alternative media and terrestrial broadcast standards, and the desirability for consumer ATV receivers to accommodate alternative media inputs. However, it does not anticipate making recommendations in these areas, but does anticipate other organizations doing so. SS/WP4 will consider inputs from other organizations in its deliberations.

11 Apr 1989   SS/WP4 will not document a standard in the manner of SMPTE or EIA, rather its role is to recommend a standard documented by others.

17 Jan 1989   The Charter was amended to read: "The Working Party on System Standards shall recommend standards for the transmission of ATV based upon information supplied by any and all other Working Parties in the Advisory Committee."

17 Jan 1989   If it is deemed to be appropriate as part of the decision process to assign weights (or levels of importance) to various findings of the other Working Parties, SS/WP4 alone shall do so.

DRAFT

FCC ADVISORY COMMITTEE ON ADVANCED TELEVISION SERVICE
SYSTEMS SUBCOMMITTEE
WORKING PARTY ON SYSTEM STANDARDS (SS/WP4)

TASK FORCE ON REPORT DRAFTING

OUTLINE FOR 1992 FINAL REPORT
of the
WORKING PARTY ON SYSTEM STANDARDS (SS/WP4)

1. **Executive Summary**

2. **Introduction**

3. **Background & History**

4. **Contributions from the Planning Subcommittee**

4.1. WP1 - Working Party on Technology Attributes and Assessment

4.2. WP2 - Working Party on Testing and Evaluation Specifications

4.3. WP3 - Working Party on Spectrum Utilization and Alternatives

4.4. WP4 - Working Party on Alternative Media Technology and BC Interface

4.5. WP5 - Working Party on Economic Factors and Market Penetration

4.6. WP6 - Working Party on Systems Subjective Assessment

4.7. WP7 - Working Party on Audience Research

4.8. AG1 - Advisory Group on Creative Issues

4.9. AG2 - Advisory Group on Consumer/Trade Issues

5.   **Contributions from the Systems Subcommittee**

5.1.   WP1 - Working Party on Systems Analysis

5.2.   WP2 - Working Party on Testing and Evaluation

5.2.1.   ATTC Report

5.2.2.   Cable Labs Report

5.2.3.   CRC Report

5.2.4.   Field Test Report

5.3.   WP3 - Working Party on Economic Assessment

5.4.   WP4 - Working Party on System Standards

6.   **Contributions from the Implementation Subcommittee**

6.1.   WP1 - Working Party on Policy and Regulation

6.2.   WP2 - Working Party on Transition Scenarios

7.   **Selection Criteria**

7.1.   Policy and Regulatory Issues

7.2.   Spectrum Utilization

7.2.1.   Coverage Area

7.3.   Economics

7.3.1.   Cost to Broadcasters

7.3.2.   Cost to Alternative Media

7.3.3.   Cost to Consumers

7.3.3.1.   Receivers

7.3.3.2.   VCRs

7.3.3.3.   Antennas/Receiving Equipment